SANDPOINT
CITY HALL

(208) 263 3407

PERMIT NO. _____

ENCROACHMENT APPLICATION & PERMIT
(Allow 10 working days to process)

UTILITY INSTALL / MAINTENANCE _____ **ACCESS** _____ **SIDEWALK / ROW** _____

OWNER _____ CONTRACTOR _____

ADDRESS _____ ADDRESS _____

_____ _____

TELEPHONE _____ TELEPHONE _____

PROJECT INFORMATION

DESCRIPTION AND ADDRESS OF PROPOSED WORK: _____

_____

Work to Begin: _____ Work Completed by: _____

A DETAILED ILLUSTRATION OF THE PROJECT AND A TRAFFIC CONTROL PLAN MUST BE ATTACHED. THE CONTRACTOR AND OR OWNER SHALL NOTIFY THE CITY OF SANDPOINT (STREETS DEPT. 263-3428 FOR PAVING/STORM WATER IN ROW AND SIDEWALK INSPECTION 255-1877) FOR ALL INSPECTIONS PRIOR TO COVERING THE WORK OR PLACEMENT OF CONCRETE. REQUESTS FOR INSPECTION SHALL BE MADE A MINIMUM OF 24 HOURS NOTICE PRIOR TO THE INSPECTION. STREET CUTS SHALL BE WARRANTED FOR TWO YEARS.

I/WE agree to construct the project in accordance with the provisions of this document, all attachments hereto, and all applicable local, state and federal standards. (Applicant/permittee and their subcontractor's hereby covenants to protect the City and save the City harmless from all claims, actions or damages of every kind and description which may accrue to or be suffered by any person or persons, corporation, or property by reason of the performance of any work done under this permit, character of materials used, or manner of installation, maintenance and operation, or by the improper occupancy of right of way or public place or public structure, and in case any suit or action is brought against said City for damages arising out of, or by reason of any of the work or construction done under this permit, the applicant/permittee, it's successors or assigns will, upon notice to it of commencement of such action, defend the same at applicant/permitee's sole cost and expense, and will satisfy any judgement after said permit or action shall have been finally determined, if adverse to the city) I HERBY ATTEST THAT I/WE ARE THE OWNER OF THE REFERENCE PROJECT_____, OR THAT I AM AN AUTHORIZED REPRESENTATIVE OF THE OWNER _____. I REQUEST PERMISSION TO CONSTRUCT THE REFERENCE PROJECT WITHIN THE RIGHT OF WAY AS DESCRIBED ABOVE.

APPLICANT SIGNATURE _____ DATE _____

(Subject to all terms, conditions and provisions described herein or attached hereto, permission is granted to the applicant to construct the referenced project).

APPROVAL _____ DATE _____

(City of Sandpoint)

CONDITIONS: Restore to City Specifications (see attached)

APPLICATION FEE $_____ INSPECTION FEE $_____ **PERMIT EXPIRES: 12/31/2018**

Word/streets/encroachmentapplication2018

SANDPOINT
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PERMIT NO. _____

ENCROACHMENT APPLICATION & PERMIT
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SCHEDULE OF CHARGES
STREET CUTS

Security for winter time patch * (Refundable after satisfactory completion of the work)	$1000 per patch
Right of Way Encroachment	$50.00

Assessment for failure to obtain and/or call for inspection on encroachment permit:

1st offense	$75 per occurrence
2nd offense	$125
3rd offense	$250

Unauthorized Street Cut	$250

Charges for City-provided services:

Maintenance of the work area	Cost + 15%
Maintenance and/or installation of traffic control	Cost + 15%

* Utility companies which have a franchise agreement with the City will not be required to post a security.

City of Sandpoint Temporary Encroachment Permit
Work Within City Right of Way (ROW) Permit Conditions

The attached packet is intended to give applicants a complete understanding of the City's requirements and standards for encroachment permits that include cutting a street surface. The packet includes:

1. Idaho Standards for Public Works Construction (ISPWC) sections 305 – Pipe Bedding, 306 – Trench Backfill and 307 – Street Cuts and Surface Repairs
2. ISPWC Standard Drawings #301, #302 and #303
3. Manual of Uniform Traffic Control Devices (MUTCD) typical application drawings for traffic control that does not involve closing a roadway. If the roadway will be closed, a traffic control plan that is specific to the site and which shows detour routes shall be included with the permit application for approval by the City. Any impacts to existing sidewalk shall be delineated by type 2 barricades with "Sidewalk Closed" signage.

City Code section 4-1-2 H. states that it is unlawful to create loud or offensive noise by means of machinery or power tools between 10:00 PM and 6:30 AM.

In addition to complying with the requirements or this packet, the contractor shall call for two inspections of each street cut. The first inspection shall be as back fill is being placed to ensure compaction is being accomplished and the second inspection is prior to placement of the asphalt or concrete road surface.

If you have questions, please contact:

Bruce Robertson
Public Works Technician
City of Sandpoint
1123 Lake St.
Sandpoint ID 83864
(208) 255-1877
brobertson@sandpointidaho.gov

SECTION 307

STREET CUTS AND SURFACE REPAIRS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Replacement and repair of pavement, curbs, gutters, cross drains, sidewalks, road shoulders, gravel roadways, driveways, landscaped areas, and similar items due to trenching operations.

1.2 RELATED SECTIONS

A. Section 301 – Trench Excavation.

B. Section 306 – Trench Backfill.

C. Section 703 – Cast-in-Place Concrete.

D. Section 705 – Concrete Pavement.

E. Section 706 – Other Concrete Construction.

F. Section 801 – Uncrushed Aggregate.

G. Section 802 – Crushed Aggregate.

H. Section 810 – Plant Mix Pavement.

I. Section 811 – Road Mix Pavement.

J. Section 1103 – Construction Traffic Control.

K. Section 1104 – Permanent Pavement Markings.

L. Section 2020 – Survey Monuments.

1.3 REFERENCES

A. AASHTO T 99: The Moisture Density Relations of Soils Using a 5.5-pound Rammer and a 12-inch Drop.

B. AASHTO T 310: In-Place Density and Moisture Content of Soil and Soil Aggregate by Nuclear Methods.

C. Manual on Uniform Traffic Control Devices, Latest Edition.

D. WAQTC TM 8: In Place Density of Bituminous Mixes Using the Nuclear Moisture Density Gauge.

1. Bid Schedule Payment Reference: 306.4.1.G.1.
2. Bid Schedule Description: Culvert Crossing CDF (flowable) Backfill...cubic yard (CY).

END OF SECTION

3. Bid Schedule Payment Reference: 306.4.1.A.3.
4. Bid Schedule Description: Type "C" Trench Backfill...linear foot (LF).

B. Trench Backfill: By the linear foot measured on a horizontal basis through all fittings and manholes per foot of depth measured from the pipe invert to the surface repair subgrade elevation.

1. Bid Schedule Payment Reference: 306.4.1.B.1.
2. Bid Schedule Description: Type "A" Trench Backfill _____ Depth... linear foot (LF).

3. Bid Schedule Payment Reference: 306.4.1.B.3.
4. Bid Schedule Description: Type "C" Trench Backfill _____ Depth...linear foot (LF).

C. Trench Backfill: By the cubic yard measured between vertical planes for a width of 2 feet plus the outside diameter of the pipe from the top of the pipe bedding to a point 5 feet above the trench bottom and from that level to the surface repair subgrade, the trench width measured with 1:1 side slopes.

1. Bid Schedule Payment Reference: 306.4.1.C.1.
2. Bid Schedule Description: Type "A" Trench Backfill...cubic yard (CY).

3. Bid Schedule Payment Reference: 306.4.1.C.3.
4. Bid Schedule Description: Type "C" Trench Backfill...cubic yard (CY).

D. Imported Trench Backfill: By the ton based on the weight of the material minus the weight of water in the material in excess of 7% of the dry weight of the material.

1. Bid Schedule Payment Reference: 306.4.1.D.1.
2. Bid Schedule Description: Imported Trench Backfill...ton (TON).

E. Service/Utility Trench Backfill: By the linear foot measured on a horizontal basis along the center of the utility pipe from the centerline of mainline pipe to end of utility service.

1. Bid Schedule Payment Reference: 306.4.1.E.1.
2. Bid Schedule Description: Service/Utility Trench Backfill...linear foot (LF).

F. Service/Utility Trench CDF (flowable) Backfill: By the linear foot measured on a horizontal basis along the center of the utility pipe from the centerline of mainline pipe to end of utility service.

1. Bid Schedule Payment Reference: 306.4.1.F.1.
2. Bid Schedule Description: Service/Utility Trench CDF (flowable) Backfill...linear foot (LF).

G. Culvert Crossing CDF (flowable) Backfill: By the cubic yard measured within trench limits and elevations as shown on the design plans or Standard Drawing.

remove all rocks, dirt, or other debris that remains. Dispose of excess excavated material in approved waste sites.

7. In lieu of removing and replacing the lawn sod and with written approval of the Owner, replant the lawn or pay the property owner to replant or resod the lawn.
8. Secure written and signed releases from all affected property owners indicating their acceptance of the work.

3.5 FRACTURED ROCK BACKFILL

A. Place fractured rock backfill material for trench backfill in the area of the trench from a depth of at least twenty-four inches (24") above the top of the pipe to a depth of at least seven feet (7') below finish grade. Place the fractured rock backfill material horizontal layers (lifts) no thicker than six feet (6'). Jet each layer at intervals no greater than six feet (6') in any direction with a minimum water pressure of thirty-five pounds per square inch (35 psi) through a minimum one inch (1") diameter jetting pipe and supply hose. Utilize sufficient water to completely saturate the backfill layer. Upon completion of the jetting operation firmly compact each layer utilizing either a track hoe-mounted compactor (hoepack), a vibratory roller or other approved equipment performing a minimum of six (6) passes over the trench surface. The vibratory roller shall have a minimum applied force of three hundred fifty (350) pounds per linear inch of roller width. The hoepack equipment shall have a minimum applied force of twelve (12) pounds per square inch of base plate.

If, in the opinion of the Engineer, the jetting operation causes the creation of significant voids, the Contractor will be required to place another layer of granular material in the trench and perform the jetting and compaction operation listed above to fill the voids.

3.6 SERVICE/UTILITY TRENCH BACKFILL

A. For cable, conduit or pipes less than 6 inches in diameter, backfill trenches in accordance with SD-306, these specifications, and the Contract Documents.

B. For trenches in traffic areas less than the conduit diameter plus 2', use Controlled Density (flowable) fill per Section 703.

PART 4 MEASUREMENT AND PAYMENT

4.1 Trench backfill to be measured accordance with one of the following methods outlined below and identified in the Bid Schedule. Payment includes full compensation for providing all materials, labor, tools and equipment necessary to complete the work. If not separately indicated in the Bid Schedule, trench backfill will be paid for as a part of other Bid Items.

A. Trench Backfill: By the linear foot measured on a horizontal basis through all fittings and manholes.

1. Bid Schedule Payment Reference: 306.4.1.A.1.
2. Bid Schedule Description: Type "A" Trench Backfill...linear foot (LF).

3.4 TYPE C TRENCH BACKFILL

A. Use in landscaping and agricultural areas where lawn sod, shrubs, topsoil, fences and other items must be removed and replaced.

B. Compaction Requirements.

1. 92% Compaction in accordance with AASHTO T99: From the top of the pipe bedding to the bottom of the surface restoration.

2. Density Requirements: As outlined in Section 202, Subsection 3.8.C.

3. Effort: If densities fail to meet minimum requirements, provide necessary additional compactive effort until backfill densities meet specified requirements at no additional cost to the Contract.

4. Method: Use Type A Backfill ,Type A-1, A-2 or A-3 compaction technique approved by the Engineer.

C. Compaction Testing.

1. In the trench area from the top of pipe bedding to 12 inches below finished grade:

a. Recompact if any test fails to meet 89% of maximum laboratory dry density.

b. Recompact if three tests within a maximum distance of 300 feet fall below 92% compaction.

c. Recompact if the average for all tests on the project is less than 92% compaction.

D. Topsoil and Finish Work. Paid under Miscellaneous Surface Restoration.

1. Keep topsoil from being mixed with the remainder of the backfill.

2. Place topsoil to a minimum depth of 12 inches in landscaping areas and at least to the depth which existed prior to trench excavation.

3. In cultivated areas, place stripped topsoil uniformly over the backfilled trench.

4. Grade topsoil to provide a smooth surface conforming to the adjoining ground surfaces. Do not compact.

5. On hillsides, compact and grade topsoil to be even with the existing terrain. Provide erosion control per Section 206 – Permanent Erosion Control.

6. In easement and landscaped areas, replace the lawn sod, shrubs, fences, and other items that have been removed and cleanup and

3. Procedure:

   a. Use minimum pressure of 35 psi through a minimum 1-inch pipe and supply hose.

   b. Extend jetting pipe into the backfill material to within 2 feet of the top of the pipeline and operate until the trench is thoroughly saturated.

   c. Insert the jetting pipe on both sides of the trench and at a maximum of 6-foot intervals. Do not allow destabilization of trench walls.

   d. When trenches have a width greater than 10 feet, use a 6-foot checker board pattern.

4. Test Pits:

   a. Excavate test pits in the backfill material at 300-foot intervals through each layer of material.

   b. If test pits are more than 5 feet in depth, install safety system per OSHA Standards. Costs incidental to the Contract.

   c. Bear all costs for standby time during field density tests, re-testing as necessary, and backfilling and re-compaction of test pits.

E. Type A-3 Compaction (for use only on river run aggregate backfill material).

1. Compaction Technique: Water settling and rolling.

2. Testing: No testing is required. If all material does not meet this specification, either remove the unsatisfactory material or compaction testing will be required per Type A-2 Compaction.

3. Place in layers not to exceed 18 inches and no higher than subgrade.

4. Place each layer per Type A-2 Compaction.

5. Compact with either a track hoe mounted compactor (Hoe Pack), or a vibratory roller performing a minimum of 6 passes over the trench surface.

   a. Vibratory Roller: Minimum applied force of 11,000 pounds total and 350 pounds/linear inch of roller width.

   b. Track Hoe Mounted Compactor: Minimum applied force of 12 psi of base plate.

3.3 TYPE A TRENCH BACKFILL (A-1, A-2, A-3)

A. Utilization.

1. Roadways: Use within public right-of-ways and within traveled roadways or within 3 feet of all traveled roadways.

2. Other: Use in areas that will contain future facilities requiring compaction such as roadways, structures, etc.

B. Compaction Requirements.

1. 92% Compaction in accordance with AASHTO T 99: From the top of the pipe bedding to a point 4 feet below subgrade (lower zone).

2. 95% Compaction in accordance with AASHTO T 99: From a point 4 feet below subgrade to the subgrade level (upper zone).

3. Effort: If densities fail to meet minimum requirements, provide necessary additional compactive effort until backfill densities meet specified requirements at no additional cost to the Contract.

4. Method: Use A-1, A-2 or A-3 compaction technique approved by the Engineer.

C. Type A-1 Compaction.

1. Deposition: In layers suitable to the equipment used for compaction, but not more than 8 inches loose thickness.

2. Wetting: Wet to optimum moisture content ± 3%.

3. Compaction Technique: Mechanical.

4. Testing and Recompaction:

a. Freqency: Every 50-100 linear feet in maximum 8" lifts.

b. Recompact if any test location in the lower zone does not meet 92% compaction.

c. Recompact if any test location in the upper zone does not meet 95% compaction.

D. Type A-2 Compaction (for use only on river run aggregate backfill material).

1. Compaction Technique: Water settling.

2. Testing and Recompaction: Per Type A-1 Compaction.

2.4 FRACTURED ROCK BACKFILL

A. Fractured rock backfill is allowed, if approved by Engineer, in the trench backfill in the area of the trench from a depth of at least twenty-four inches (24") above the top of the pipe to a depth of at least seven feet (7') below finish grade, unless otherwise prohibited.

B. Material Requirements.

1. Rock which required blasting to facilitate removal from the trench.

2. Sorted to remove all material with a greatest dimension exceeding twenty-four inches (24").

3. Reasonably graded such that the voids between the larger rocks are filled with smaller granular material. This may require the Contractor to import granular material to mix with the larger rocks.

PART 3 WORKMANSHIP

3.1 GENERAL

A. In non-roadway areas, backfill trench as soon as possible and within 24 hours of pipe placement and complete cleanup within 48 hours after pipe placement.

B. In roadway areas, backfill trench after placement of each section of pipe and complete backfill and cleanup after each workday.

C. Take care in placing the initial layers of backfill to avoid displacement of the pipe from line and grade. Remove material that may damage pipe.

D. The Engineer reserves the right to stop work on any line when backfilling, testing, cleanup, or restoration is not satisfactory.

E. Backfill per Standard Drawing SD-301 – Typical Trench.

3.2 PREPARATION

A. Excavate area per Section 301 – Trench Excavation, Section 302 – Rock Excavation, and Section 303 – Exploratory Excavation. If the trench bottom is overexcavated, compact to 95% maximum density as measured by AASHTO T 99, or in accordance with other method required by the Engineer prior to placement of backfill materials.

B. Place and compact bedding per Section 305 – Pipe Bedding.

C. Place thrust blocks as necessary per Section 401 – Water Pipe and Fittings.

D. Place pipe locating wire and marking tape as required.

E. Remove all form lumber and debris.

B. Notify Engineer if installation conditions such as trench width, depth, soils, and backfilling conditions do not match those contemplated by the Contract Documents. Allow 4 hours for Engineer to modify the design, if necessary, unless otherwise specified.

1.6 PROJECT RECORD DOCUMENTS

A. If encountered utilities are not positioned as shown on the plans, notify the Engineer. Note revised locations in relation to known references on the record drawings.

B. Provide copy of record documents to Owner prior to issuance of substantial completion.

PART 2 MATERIALS

2.1 GENERAL REQUIREMENTS

A. Construction materials and equipment used for the work to meet all requirements of the Contract Documents.

B. Use, handle and store material in such a manner as to preserve quality and fitness for the work.

C. Immediately remove materials from the site of work that do not conform to the requirements of the Contract Documents as determined by the Engineer.

D. Backfill is from the top of the pipe bedding to base of surface repair for the full width of the trench.

2.2 NATIVE TRENCH BACKFILL MATERIAL

A. Excavated trench material free from cinders, ashes, refuse, organic and frozen material, cobbles or boulders with a greatest dimension exceeding 8 inches, or other unsuitable materials.

B. Material with excessive or deficient moisture content will not be considered as unsuitable if the moisture content can be adjusted to a level allowed to obtain compaction.

C. If suitable native material, as determined by the Engineer, is not used for backfill, import suitable backfill material at no additional cost to the Owner.

2.3 IMPORTED TRENCH BACKFILL MATERIAL

A. 8 inches minus uncrushed aggregate conforming to Section 801 – Uncrushed Aggregate.

SECTION 306

TRENCH BACKFILL

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Pipe bedding placement and compaction.

1.2 RELATED SECTIONS

A. Section 301 – Trench Excavation.

B. Section 302 – Rock Excavation.

C. Section 303 – Exploratory Excavation.

D. Section 305 – Pipe Bedding.

E. Section 401 – Water Pipe and Fittings.

F. Section 801 – Uncrushed Aggregate.

1.3 REFERENCES

A. AASHTO T 11: Materials Finer Than No. 200 Sieve in Mineral Aggregated by Washing.

B. AASHTO T 27: Sieve Analysis of Fine and Course Aggregates.

C. AASHTO T 99: Moisture-Density Relations of Soils Using a 5.5 pound Rammer and a 12-inch Drop.

D. AASHTO T 176: Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test.

E. AASHTO T 310: In-Place Density and Moisture Content of Soil and Soil Aggregate by Nuclear Methods.

F. ASTM D 2487: Classification of Soils for Engineering Purposes.

1.4 SUBMITTALS

A. Samples: Submit one 45-pound sample of each specified backfill material in airtight containers to testing laboratory.

1.5 FIELD MEASUREMENTS

A. Verify that survey benchmark and intended elevations for the work are as indicated in the Contract Documents.

5. Special Conditions: Use Class C-1, C-2, or C-3 bedding system when called for on the Contract Documents.

PART 4 MEASUREMENT AND PAYMENT

4.1 Use one of the following unit price options as designated on the Bid Schedule. Payment to be full compensation for providing all materials, labor, tools and equipment necessary to complete the work. If not listed in the Bid Schedule, pipe bedding is to be included in other Bid Items.

A. Pipe Bedding: By the linear foot measured on a horizontal basis through and including manholes, tees, fittings, and connections.

1. Bid Schedule Payment Reference: 305.4.1.A.1.
2. Bid Schedule Description: Class A-1 Pipe Bedding For _____ Diameter Pipe...linear foot (LF).

3. Bid Schedule Payment Reference: 305.4.1.A.3.
4. Bid Schedule Description: Class A-2 Pipe Bedding For _____ Diameter Pipe...linear foot (LF).

5. Bid Schedule Payment Reference: 305.4.1.A.5.
6. Bid Schedule Description: Class B-1 Pipe Bedding For _____ Diameter Pipe...linear foot (LF).

7. Bid Schedule Payment Reference: 305.4.1.A.7.
8. Bid Schedule Description: Class B-2 Pipe Bedding For _____ Diameter Pipe...linear foot (LF).

9. Bid Schedule Payment Reference: 305.4.1.A.9.
10. Bid Schedule Description: Class C-1 Pipe Bedding For _____ Diameter Pipe...linear foot (LF).

11. Bid Schedule Payment Reference: 305.4.1.A.11.
12. Bid Schedule Description: Class C-2 Pipe Bedding For _____ Diameter Pipe...linear foot (LF).

13. Bid Schedule Payment Reference: 305.4.1.A.13.
14. Bid Schedule Description: Class C-3 Pipe Bedding For _____ Diameter Pipe...linear foot (LF).

B. Pipe Bedding – Placement and Compaction Only: By the linear foot measured on a horizontal basis through and including manholes, tees, fittings, and connections.

1. Bid Schedule Payment Reference: 305.4.1.B.1.
Bid Schedule Description: Pipe Bedding – Placement and Compaction Only for _____ Diameter Pipe...linear foot (LF).

END OF SECTION

D. In the event that the trench shoring or the trench box is below the springline of the pipe, raise the shoring or trench box above the pipe springline and recompact the bedding (shovel sliced and tamped).

E. In six-inch lifts, place additional bedding layer from the pipe springline to 6 inches above the pipe.

F. Concrete Placement.

1. Provide supports for the pipe to maintain line and grade prior to placement of the concrete.

2. Place concrete monolithically unless otherwise approved by the Engineer and prevent flotation of the pipe prior to curing of the concrete.

3. Forming the concrete bedding may be allowed if concrete extends a minimum of 12 inches on each side of the pipe.

4. Backfill above the concrete will not be allowed until 48 hours after placement of the concrete bedding.

5. Backfill may be placed within 24 hours if an Engineer-approved high-early strength concrete is used.

3.10 COMPACTION

A. Compact each layer of Type II and Type III bedding material to 92% of the maximum density as determined by AASHTO T99.

B. If compaction fails to meet minimum density, provide necessary additional compaction effort necessary to meet specified requirements at no additional cost to the Contract.

3.11 BEDDING SYSTEM APPLICATION

A. If not otherwise specified in the Contract Documents, provide the bedding system for the type of pipe and application indicated below,

1. Gravity Sanitary Sewer, Stormdrains, Culverts and Gravity Irrigation Pipes: Use Class A-1 bedding system for PVC, PE, corrugated metal, and other flexible gravity pipe.

2. Gravity Sanitary Sewer, Stormdrains, Culverts and Gravity Irrigation Pipes: Use Class A-1, A-2, B-1, or B-2 bedding system for ductile iron, clay, steel, concrete or other rigid gravity pipe.

3. Pressure Sewer Pipes: Use Class A-1, A-2, B-1 or B-2 bedding system for rigid or flexible pressure sewer pipes.

4. Water and Pressure Irrigation: Use Class A-1, A-2, B-1, or B-2 bedding system for rigid or flexible water and pressure irrigation pipes.

3.2 CLASS A-1 BEDDING SYSTEM

A. Place Type I Bedding 4 inches below the bottom of the pipe, 6 inches for pipes, 30 inches and larger, to 6 inches above the pipe.

3.3 CLASS A-2 BEDDING SYSTEM

A. Place Type I Bedding 4 inches below the bottom of the pipe, 6 inches for pipes 30 inches and larger, to springline, then place either Type II or Type III bedding to 6 inches above the pipe.

3.4 CLASS B-1 BEDDING SYSTEM

A. Place Type II Bedding 4 inches below the bottom of the pipe, 6 inches for pipes 30 inches and larger, to 6 inches above the pipe.

3.5 CLASS B-2 BEDDING SYSTEM

A. Place Type III Bedding 4 inches below the bottom of the pipe, 6 inches for pipes 30 inches and larger, to 6 inches above the pipe.

3.6 CLASS C-1 BEDDING SYSTEM (CONCRETE CAP)

A. Place Type I Bedding 4 inches below the bottom of the pipe, 6 inches for pipes 30 inches and larger, to springline, and then place Type IV bedding to 6 inches above the pipe.

3.7 CLASS C-2 BEDDING SYSTEM (CONCRETE CRADLE)

A. Place Type IV Bedding 4 inches below the bottom of the pipe, 6 inches for pipes 30 inches and larger, to springline, and then place Type I bedding to 6 inches above the pipe.

3.8 CLASS C-3 BEDDING SYSTEM (CONCRETE ENCASEMENT)

A. Place Type IV Bedding 4 inches below the bottom of the pipe, 6 inches for pipes 30 inches and larger, to 6 inches above the pipe.

3.9 PLACEMENT

A. Place bedding in layers no thicker than 6 inches in depth, unless otherwise directed. Allow for bedding depth around pipe bells. Place the first layer from a point at least 4 inches below the pipe, 6 inches for pipes 30 inches and larger, to the bottom outside of the pipe.

B. Shovel slice and tamp to ensure that the bedding material is firmly placed.

C. Following placement of the pipe, place additional bedding layers up to the springline of the pipe. Shovel slice and tamp to ensure that the bedding material fills in and supports the pipe haunch area.

2.3 TYPE II BEDDING

A. Type II Aggregate Material: Use for Foundation Stabilization meeting the following gradation and as otherwise specified in Section 801 – Uncrushed Aggregates.

Sieve Size	Percent Passing
3 inch	100
No. 4	25-60
No. 200	0-12

2.4 TYPE III BEDDING

A. Sand with 100% passing the No. 4 sieve and less than 3% passing the No. 200 sieve.

2.5 TYPE IV BEDDING

A. Class 3000 psi concrete with 28-day compressive strength of 3,000 psi minimum, unless otherwise indicated in the Contract Documents.

B. Conform to Section 703 – Cast-in-Place Concrete.

2.6 SOURCE AND FIELD QUALITY CONTROL

A. Field inspection and testing will be performed by the Engineer unless otherwise specified.

B. Lab analysis and field testing of Type I through Type III Bedding will be performed in accordance with AASHTO T 11, AASHTO T 27, AASHTO T 99, AASHTO T 310, and ASTM D 2487 as determined by the Engineer.

C. Type IV Bedding will be tested in accordance with Section 703 – Cast-in-Place Concrete.

D. If tests indicate materials do not meet specified requirements, change material and retest at no cost to Owner.

PART 3 WORKMANSHIP

3.1 PREPARATION

A. Prepare trench as described in Section 301 – Trench Excavation, and Section 302 – Rock Excavation. If the trench bottom is disturbed during excavation, compact to at least 95% maximum density as measured by AASHTO T99 prior to placement of bedding materials.

B. Place and compact Type II Aggregate (Foundation Stabilization), if necessary, as indicated in Section 304 – Trench Foundation Stabilization.

C. Prior to placement of the pipe on the first layer of bedding, excavate for bell holes and fully grade the trench to provide for uniform longitudinal pipe support.

1.6 PROJECT RECORD DOCUMENTS

A. If encountered utilities are not positioned as shown on the plans, notify the Engineer. Note revised locations in relation to known references on the record drawings.

B. Provide copy of record documents to Owner prior to issuance of substantial completion.

PART 2 MATERIALS

2.1 GENERAL REQUIREMENTS

A. Construction materials and equipment used for the work to meet all requirements of the Contract Documents.

B. Use, handle and store material in such a manner as to preserve quality and fitness for the work.

C. Immediately remove materials from the site of work that do not conform to the requirements of the Contract Documents as determined by the Engineer.

D. Pipe bedding is material from 4 inches below the bottom of the pipe, 6 inches for pipes 30 inches and larger, including pipe bell holes, to 6 inches above the top of the pipe for the full width of the trench.

2.2 TYPE I BEDDING

A. Type I bedding material: 3/4 inch 60% crushed or fractured (at least on one side) gravel and sand meeting the following gradation.

Sieve Size	Percent Passing
1 inch	100
3/4 inch	80-100
3/8 inch	20-70
No. 4	5-20
No. 8	0-5
No. 200	0-3

B. If the Contractor requests and the Engineer determines suitable bedding is available from excavated material, Type I bedding material may be created by screening, sifting, or manually sorting.

C. If the Engineer determines suitable excavated material does not require screening, sifting or manual sorting, there will be no payment made under Type I bedding material, except for placement and compaction only as listed in the Bid Schedule.

SECTION 305

PIPE BEDDING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Pipe bedding placement and compaction.

1.2 RELATED SECTIONS

A. Section 301 – Trench Excavation.

B. Section 302 – Rock Excavation.

C. Section 304 – Trench Foundation Stabilization.

D. Section 703 – Cast-in-Place Concrete.

E. Section 802 – Crushed Aggregates.

1.3 REFERENCES

A. AASHTO T 11: Materials Finer Than No. 200 Sieve in Mineral Aggregated by Washing.

B. AASHTO T 27: Sieve Analysis of Fine and Course Aggregates.

C. AASHTO T 99: Moisture-Density Relations of Soils Using a 5.5 pound Rammer and a 12-inch Drop.

D. AASHTO T 310: In-Place Density and Moisture Content of Soil and Soil Aggregate by Nuclear Methods.

E. AASHTO T 335: Determining The Percentage of Fracture in Cover Aggregate

F. ASTM D 2487: Classification of Soils for Engineering Purposes.

1.4 SUBMITTALS

A. Samples: Submit one 45-pound sample of each specified bedding material in air tight containers to testing laboratory.

1.5 FIELD MEASUREMENTS

A. Verify that survey benchmark and intended elevations for the work are as indicated in the Contract Documents.

B. Notify Engineer if installation conditions such as trench width, depth, soils, and bedding conditions do not match those contemplated by the Contract Documents. Allow 4 hours for Engineer to modify the design, if necessary, unless otherwise specified.

1.4 SUBMITTALS

A. Submit asphalt concrete mix design, aggregate gradations, and plant certification per Division 800 – Aggregates and Asphalt.

B. Submit a traffic control plan if work will disrupt the normal flow of traffic in the work area.

1.5 FIELD MEASUREMENTS

A. Verify that survey benchmark and intended elevations for the work are as indicated in the Contract Documents.

B. Notify Engineer if installation conditions such as surfacing, soils, and drainage conditions do not match those contemplated by the Contract Documents. Allow 4 hours for Engineer to modify the design, if necessary, unless otherwise specified.

1.6 PROJECT RECORD DOCUMENTS

A. Accurately record actual location of street cuts and surface repairs in relation to existing permanent benchmarks.

B. Provide copy of record documents to Owner prior to issuance of substantial completion.

1.7 PERMITS AND TRAFFIC CONTROL

A. Obtain all necessary permits required to perform the work in the roadway right-of-way.

B. Provide traffic control per Section 1103 – Construction Traffic Control.

PART 2 MATERIALS

2.1 CONCRETE

A. Refer to Section 703 – Cast-in-Place Concrete.

B. All concrete to be Class 3000 psi unless otherwise indicated in the Contract Documents.

2.2 ASPHALT CONCRETE

A. Provide Class III unless otherwise specified. Refer to Section 810 – Plant Mix Pavement.

B. Refer to Section 811 – Road Mix Pavement.

2.3 ROADWAY AGGREGATES

A. Refer to Section 801 – Uncrushed Aggregate.

B. Refer to Section 802 – Crushed Aggregate.

2.4 PAVEMENT FABRIC

A. Non-woven Petromat by Phillips Fibers Corporation, or approved substitution.

2.5 EROSION CONTROL AND SEDIMENT BEST MANAGEMENT PRACTICES

A. Refer to Section 206 – Permanent Erosion Control.

B. Refer to Section 207 – Permanent Stormwater Best Management Practices (BMPs)

C. Refer to Division 1000 – Construction Stormwater Best Management Practices (BMPs).

2.6 STRIPING

A. Refer to Section 1104 – Permanent Pavement Markings.

PART 3 WORKMANSHIP

3.1 GENERAL REQUIREMENTS

A. Provide surface repair at the locations indicated in the Contract Documents and staked in the field or as required for the installation of pipelines, services, utilities and ancillary items.

B. Provide surface restoration in all disturbed areas to meet or exceed the quality of the surfaces removed, unless otherwise indicated in the Contract Documents. Patch widths are never to be less than 4 feet in width.

C. Complete surface restoration and final cleanup as soon as possible and in no case longer than 30 days after initial excavation or as otherwise specified in the Contract Documents, or approved by the Engineer.

D. Unless otherwise approved by the Engineer, progress with restoration so that no more than 1500 feet of trenching and backfill is not completely restored at any one time on the project. Provide traffic control per Section 1103 – Construction Traffic Control.

E. The Engineer will stop work if, backfilling, cleanup, dust control and/or surface restoration operations are not within the requirements of the Contract Documents.

F. Replace all pavement markings per Section 1104 – Permanent Pavement Markings.

3.2 SURVEY LINE AND GRADE AND SURVEY MONUMENT REPLACEMENT

A. Replace surfaces to original lines and grades or as indicated on the Contract Documents. If necessary, survey line grade control hubs will be provided by the Engineer in a manner consistent with accepted practices.

B. Preserved all stakes, markers, etc. Stakes, markers, etc. that are disturbed by the Contractor will be replaced by the Engineer at Contractor's expense.

C. Survey Monuments: Refer to Section 2020 – Survey Monuments.

3.3 SOFT SPOT REPAIR

A. Prior to beginning construction, walk area with Resident Project Representative and roadway official to identify pavement deficiencies and subgrade "soft spots" located outside of anticipated trench area.

B. As a part of pavement restoration construction, if directed by Resident Project Representative and roadway official, remove pavement in soft spot areas and remove roadway base materials to depths directed by roadway official.

C. Compact subgrade and place uncrushed aggregate base and crushed aggregate leveling course as directed by roadway official in accordance with Standard Drawing SD 303A.

3.4 SUBGRADE PREPARATION

A. Verify that subgrade has been compacted to the required density. Refer to Section 306 – Trench Backfill.

3.5 MISCELLANEOUS SURFACE RESTORATION (Sod, pasture, landscaped areas, etc.)

A. Perform work in accordance with construction within easements as described in Section 301 - Trench Excavation and in accordance with Type 'C' trench backfill as described in Section 306 – Trench Backfill.

B. Unless otherwise agreed to by the property owner, water as required to re-establish vegetation.

3.6 TYPE "B" SURFACE RESTORATION (Concrete Roadway Surfaces)

A. Restore concrete roadway surfaces removed due to trenching operations.

B. Construct per Standard Drawing SD-303 – Street Cuts and Surface Repair Details, and Section 705 – Concrete Pavement.

C. Prior to placement of the concrete resurfacing, neatly sawcut the edges of the existing concrete pavement to provide a clean break.

D. Saw cut along existing score lines or expansion joints if score lines or expansion joints are within 4 feet of the edge of the trench.

E. Finish concrete in a manner similar to the existing surface to avoid "patched" appearance.

3.7 TYPE "C" SURFACE RESTORATION (Gravel Roadway Surfaces)

A. Restore gravel roadway surfaces removed during trenching operations or where a gravel surface is required and specified for finished grade.

B. Construct per Standard Drawing SD-303 – Street Cuts and Surface Repair Details.

C. Use 8 inches compacted gravel depth unless otherwise specified.

D. Use Type I Crushed Aggregate 3/4 inch minus crushed aggregate in accordance with Section 802 - Crushed Aggregate.

E. Compact to a minimum of 95% of maximum density as measured by AASHTO T99.

F. Where the existing gravel surface outside the trench area is contaminated due to construction activities, removed and replaced with Type I crushed aggregate at no additional cost to the Contract.

3.8 TYPE "P" SURFACE RESTORATION (Asphalt Roadway Surfaces)

A. Restore asphaltic concrete pavement, asphalt concrete pavement over concrete, bituminous surface treatment, or asphaltic concrete surfacing that has been damaged or removed during trenching operations.

B. Construct per Standard Drawing SD-303 – Street Cuts and Surface Repair Details, and Section 810 – Plant Mix Pavement, or Section 811 – Road Mix Pavement.

C. Use 8 inches compacted base course, unless a greater section is otherwise indicated in the Contract Documents, consisting of Type I Aggregate in accordance with Section 802 – Crushed Aggregate.

D. Compact base course to 95% of maximum density in accordance with AASHTO T 99.

E. Asphalt concrete pavement thickness is to match existing pavement depth to a maximum depth of 6 inches unless a greater section is otherwise indicated in the Contract Documents. In no case shall pavement thickness be less than 2-½ inches on residential streets or 3 inches on designated collector and arterial streets.

F. After base compaction, trim back existing pavement only if required by local jurisdiction or as shown on the Plans by cutting to a straight line.

G. Remove pavement that has been damaged, broken, or is unsound and provide a smooth edge for joining the new pavement.

H. Repair damaged or broken sections of pavement by vertical sawcutting at 45° from existing cut line to outside of damaged pavement, then parallel to trench, then 45° back to existing cut line.

I. Surface requirements.

1. Surface: Smooth traveling surface.

2. Irregularities: None which allow ponding in excess of 0.02 feet deep unless due to existing pavement irregularities.

3. Grade: Deviation from existing surface less than 0.02 foot/10 foot in profile or 0.02 foot/10 foot in cross-section when measured with a 10-foot straight edge.

4. Markings: Replace all markings removed per Section 1104 - Permanent Pavement Markings.

J. Determination if full width pavement surface restoration is required.

1. Determination: Provide full width restoration if 50% or more of the existing surface area has been removed or damaged.

2. Calculation: Intervals of one block or 350 feet (whichever is less). Do not include removal of strips or the 1 foot cutback requirement in the calculation.

3. Strips: Remove all strips of remaining pavement less than 2 feet in width along curb and gutter or pavement edge.

4. Subgrade Stabilization: If directed by the Engineer, place additional Type II crushed aggregate subgrade stabilization outside the trench area. To be paid in addition to other Bid Items.

3.9 TYPE "P" SURFACE RESTORATION (with Pavement Fabric)

A. Restore asphaltic concrete pavement containing pavement fabric and overlay that has been damaged or removed during trenching operations.

B. Construct per Standard Drawing SD-303 – Street Cuts and Surface Repair Details, and Section 810 – Plant Mix Pavement, or Section 811 – Road Mix Pavement.

C. Use 8 inches compacted base course consisting of Type I Aggregate in accordance with Section 802 – Crushed Aggregate.

D. Compact base course to 95% of maximum density in accordance with AASHTO T-99.

E. After base compaction, trim back existing pavement only if required by local jurisdiction or as shown on the Plans by saw cutting to a straight line. Trim the asphalt overlay above the fabric an additional 4 inches.

F. Expose shelf and take care not to damage existing fabric.

G. Compact a minimum of 2 inches of asphalt concrete to the level of the fabric.

H. Spray the lower patch with AC-10 at the rate of 0.18 to 0.25 gallons/square yard at 280°-325° and install new pavement fabric the full width of the patch.

I. Overlay the fabric with new asphalt concrete to finish grade.

J. Surface tolerances, width requirements, and asphalt per Type "P" Surface Repair.

3.10 FULL WIDTH PAVEMENT SURFACE RESTORATION

A. Construct per Standard Drawing SD-303 – Street Cuts and Surface Repair Details, and Section 810 – Plant Mix Pavement, or Section 811 – Road Mix Pavement.

B. Match pavement width to existing pavement width unless otherwise specified.

C. Within trench area, gravel base course and compaction per Type 'P' Surface Restoration.

D. Pavement thickness and surface requirements per Type 'P' Surface Restoration.

E. Use existing base material outside of trench only if undisturbed, uncontaminated, and only if approved by Engineer. If directed by Engineer, perform soft spot repair in accordance with Section 307.3.3.

F. Replace gravel shoulders in accordance with Section *3.12.C* – Gravel Shoulders.

3.11 MODIFIED FULL WIDTH RESTORATION

A. Construct per Standard Drawing SD 303 – Street Cuts and Surface Repair Details, Standard Drawing SD 303A – Type "P" Alternate for Modified Full Width Surface Restoration – Option A and B, and Section 810 – Plant Mix Pavement, or Section 811 – Road Mix Pavement.

B. Prior to paving, repair soft spots per Section 307.3.3.

C. Match pavement width to existing pavement width unless otherwise specified.

D. Surface requirements workmanship per Type "P" Surface Restoration.

E. Retain existing pavement outside of trench area.

F. Replace gravel shoulders in accordance with Section 3.12.C - Gravel Shoulders.

3.12 INCIDENTAL SURFACE RESTORATION

A. Provide this work incidental to other surface restoration Bid items, unless otherwise specified in the Contract Documents.

B. Sidewalks, curbs and gutters, driveways, and cross drains.

1. General: Replace and restore sidewalks, curbs and gutters, and driveways to the same section, width, depth, line and grade as that removed or damaged.

2. Saw Cut: All concrete, regardless of the thickness, in neat, straight lines.

3. Hydro-Hammer Units: Not permitted for cutting concrete.

4. Subgrade Preparation: Perform subgrade preparation pursuant to appropriate restoration requirements.

5. Leveling Courses:

a. Sidewalks: Type I Crushed Aggregate, 2 inches minimum compacted thickness or to existing thickness, whichever is greater.

b. Driveways, Curbs and Gutters, Other: Type I Crushed Aggregate, 4 inches minimum compacted thickness, or to existing thickness, whichever is greater.

6. Sidewalk Replacement: Between scored joints or a minimum of 4 feet in width.

7. Finishes: Similar to the existing and abutting areas.

8. Standard: Per Section 706 – Other Concrete Construction.

C. Gravel Shoulders.

1. General: Restore to a minimum width of 3 feet or to existing width, whichever is greater, and to existing condition.

2. Depth: Minimum of 3 inches or to the existing depth whichever is greater.

3. Material: Type I Crushed Aggregate.

4. Reuse: Utilization of gravel removed prior to trenching is acceptable if the gravel has been carefully removed and stockpiled to avoid contamination and is pre-approved by the Engineer.

3.13 GRAVEL ACCESS ROAD

A. Construct gravel access road as indicated in the Contract Documents and Standard Drawing SD-304 – Gravel Access Road, and SD-305 – Gravel Access Road Turnaround Detail.

B. Use Type II Aggregate subbase compacted to 95% with provisions for turnouts at terminus of access roads where shown on the Contract Documents.

C. Compact gravel roadway material to 95% of maximum density in accordance with AASHTO T99.

D. Center the road on the pipeline alignment, unless otherwise indicated in the Contract Documents.

PART 4 MEASUREMENT AND PAYMENT

4.1 Surface Restoration to be measured in accordance with one of the following methods outlined below and identified in the Bid Schedule. Payment includes full compensation for providing all materials, labor, tools and equipment necessary to complete the work. If not separately indicated in the Bid Schedule, Surface Restoration is incidental to other Bid Items.

A. Miscellaneous Surface Restoration: By the linear foot measured on a horizontal basis through all fittings and manholes regardless of trench width. Includes work required to restore area to original conditions.

1. Bid Schedule Payment Reference: 307.4.1.A.1.
2. Bid Schedule Description: Miscellaneous Surface Restoration (Landscaping)...linear foot (LF).

3. Bid Schedule Payment Reference: 307.4.1.A.3.
4. Bid Schedule Description: Miscellaneous Surface Restoration (Sod)...linear foot (LF).

5. Bid Schedule Payment Reference: 307.4.1.A.5.
6. Bid Schedule Description: Miscellaneous Surface Restoration (Pasture)...linear foot (LF).

7. Bid Schedule Payment Reference: 307.4.1.A.7.
8. Bid Schedule Description: Miscellaneous Surface Restoration (Natural Ground)...linear foot (LF).

B. Type "B" Surface Restoration (Concrete Roadway): By the linear foot measured on a horizontal basis through all fittings and to manhole centerlines regardless of trench width. No additional length is given for outside of manholes and for line terminations.

1. Bid Schedule Payment Reference: 307.4.1.B.1.
2. Bid Schedule Description: Type "B" Surface Restoration (Concrete Roadway)...linear foot (LF).

C. Type "B" Surface Restoration (Concrete Roadway): By the square yard required to adjoin adjacent surfaces as measured in the field.

1. Bid Schedule Payment Reference: 307.4.1.C.1.
2. Bid Schedule Description: Type "B" Surface Restoration (Concrete Roadway)...square yard (SY).

D. Type "C" Surface Restoration (Gravel Roadway): By the linear foot measured on a horizontal basis through all fittings and to manhole centerlines regardless of trench width. No additional length is given for outside of manholes and for line terminations.

1. Bid Schedule Payment Reference: 307.4.1.D.1.
2. Bid Schedule Description: Type "C" Surface Restoration (Gravel Roadway)...linear foot (LF).

E. Type "C" Surface Restoration (Gravel Roadway): By the square yard required to adjoin adjacent surfaces as measured in the field.

1. Bid Schedule Payment Reference: 307.4.1.E.1.
2. Bid Schedule Description: Type "C" Surface Restoration (Gravel Roadway)...square yard (SY).

F. Type "P" Surface Restoration (Asphalt Roadway): By the linear foot measured on a horizontal basis along the centerline of the main through all fittings between manhole centerlines regardless of trench width. No additional length is given for outside of manholes and for main line terminations. Type "P" Surface Restoration for service lines will be by the linear foot measured on a horizontal basis along the centerline of the service line from the centerline of the main to the edge of pavement or lip of gutter. No additional payment will be made if sufficient pavement is removed or damaged to require full width Surface Restoration.

1. Bid Schedule Payment Reference: 307.4.1.F.1.
2. Bid Schedule Description: Main Line Type "P" Surface Restoration (Asphalt Roadway)...linear foot (LF).

3. Bid Schedule Payment Reference: 307.4.1.F.3.
4. Bid Schedule Description: Main Line Type "P" Surface Restoration (Asphalt Roadway with Fabric)...linear foot (LF).

5. Bid Schedule Payment Reference: 307.4.1.F.5.
6. Bid Schedule Description: Service Line Type "P" Surface Restoration (Asphalt Roadway)...linear foot (LF).

7. Bid Schedule Payment Reference: 307.4.1.F.7.
8. Bid Schedule Description: Service Line Type "P" Surface Restoration (Asphalt Roadway with Fabric)...linear foot (LF).

G. Type "P" Surface Restoration (Asphalt Roadway): By the square yard required to adjoin adjacent surfaces as measured in the field.

1. Bid Schedule Payment Reference: 307.4.1.G.1.
2. Bid Schedule Description: Type "P" Surface Restoration (Asphalt Roadway)...square yard (SY).

3. Bid Schedule Payment Reference: 307.4.1.G.3.
4. Bid Schedule Description: Type "P" Surface Restoration (Asphalt Roadway with Pavement Fabric)...square yard (SY).

H. Full Width Surface Restoration (Asphalt Roadway): By the square yard as measured in the field including service line surface restoration.

1. Bid Schedule Payment Reference: 307.4.1.H.1.
2. Bid Schedule Description: Full Width Surface Restoration (Asphalt Roadway)...square yard (SY).

I. Modified Full Width Surface Restoration (Asphalt Roadway): By the square yard as measured in the field including service line surface restoration.

1. Bid Schedule Payment Reference: 307.4.1.I.1.
2. Bid Schedule Description: Modified Full Width Surface Restoration (Asphalt Roadway)... square yard (SY).

J. Gravel Access Road: By the linear foot measured along the horizontal centerline of the access road as indicated in the Contract Documents.

1. Bid Schedule Payment Reference: 307.4.1.J.1.
2. Bid Schedule Description: Gravel Access Road – Type _____ ... linear foot (LF).

K. Soft Spot Repair: Soft spot repair for uncrushed aggregate base material will be paid under two items in the Bid Schedule. For quantities greater than 10 cubic yards, payment for the first 10 cubic yards will be paid under Item 307.4.1.K.1 and the remainder under Item 307.4.1.K.3. Soft spot repair for crushed aggregate base material will be paid under two items in the Bid Schedule. For quantities greater than cubic yards, payment for the first 10 cubic yards will be paid under Item 307.4.1.K.5 and the remainder under Item 307.4.1.K.7. Asphalt concrete surface restoration associated with soft spot repair will be paid under Item 307.4.1.K.9. The amounts shown in the Bid Schedule are for bidding purposes only, and do not represent the actual amount, which will be determined during construction. Variation in quantities, as stated in the ISPWC, will not apply to these items. The unit price bid shall be used regardless of the actual quantity used in the field. Payment includes cost for removal of existing subgrade material. No payment will be made for soft spots which develop due to Contractor prematurely removing asphalt surface.

1. Bid Schedule Payment Reference: 307.4.1.K.1.
2. Bid Schedule Description: Soft Spot Repair Uncrushed Aggregate Base Material (0 to 10 cu. yds)...cubic yards (CY).

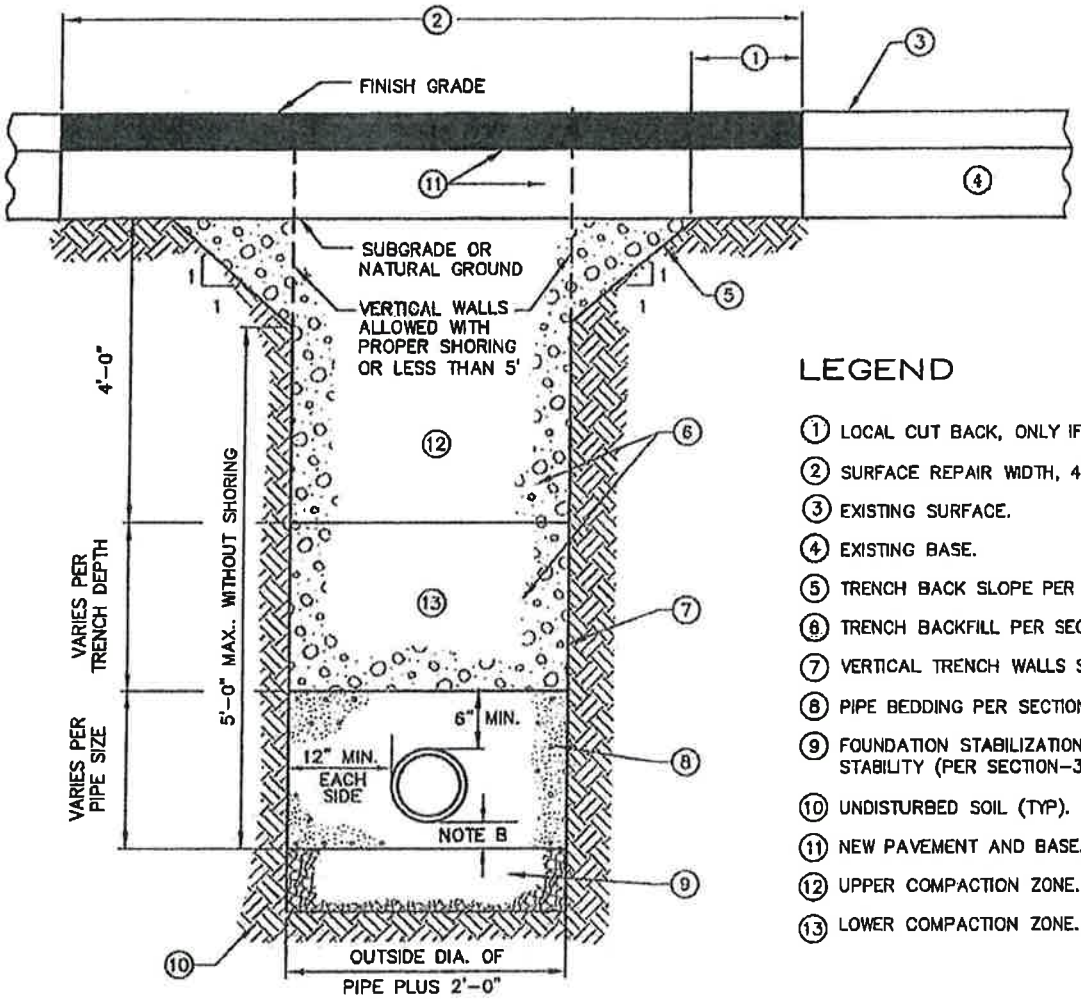
3. Bid Schedule Payment Reference: 307.4.1.K.3.
4. Bid Schedule Description: Soft Spot Repair Uncrushed Aggregate Base Material (11 cu. yds and above)...cubic yards (CY).

5. Bid Schedule Payment Reference: 307.4.1.K.5.
6. Bid Schedule Description: Soft Spot Repair Crushed Aggregate Base Material (0 to 10 cu. yds)...cubic yards (CY).

7. Bid Schedule Payment Reference: 307.4.1.K.7.
8. Bid Schedule Description: Soft Spot Repair Crushed Aggregate Base Material (11 cu. yds and above)...cubic yards (CY).

9. Bid Schedule Payment Reference: 307.4.1.K.9.
10. Bid Schedule Description: Soft Spot Asphalt Surface Restoration ...square yards (SY).

END OF SECTION



LEGEND

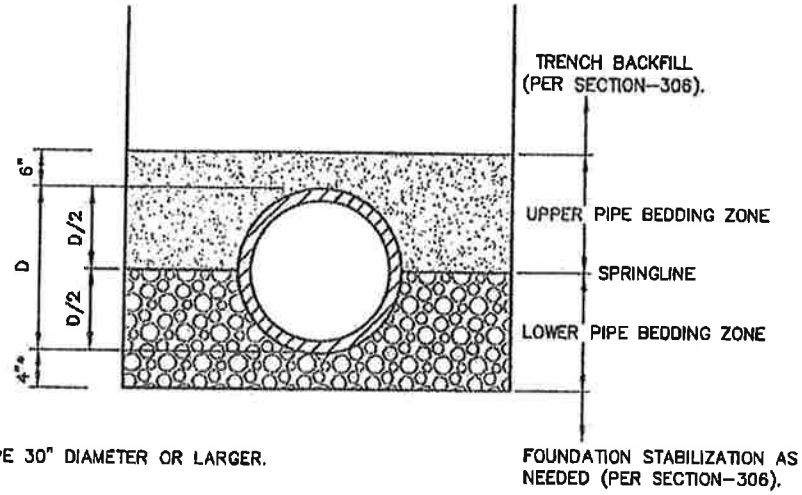
1. LOCAL CUT BACK, ONLY IF REQUIRED.
2. SURFACE REPAIR WIDTH, 4' MINIMUM.
3. EXISTING SURFACE.
4. EXISTING BASE.
5. TRENCH BACK SLOPE PER O.S.H.A. OR SUITABLE SHORING.
6. TRENCH BACKFILL PER SECTION–306.
7. VERTICAL TRENCH WALLS SHORING PER O.S.H.A..
8. PIPE BEDDING PER SECTION–305 (SEE SD–302).
9. FOUNDATION STABILIZATION MAY VARY PER SOIL TYPE A STABILITY (PER SECTION–304).
10. UNDISTURBED SOIL (TYP).
11. NEW PAVEMENT AND BASE.
12. UPPER COMPACTION ZONE.
13. LOWER COMPACTION ZONE.

NOTES

- (A) TRENCH EXCAVATION PER SECTION–301.
- (B) PIPE BEDDING PER SECTION–305.
- (C) BACKFILL AND COMPACTION PER SECTION–306.
- (D) SURFACE REPAIR AND BASE PER SECTION–307. SEE SD–303.

2015

IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION	TYPICAL TRENCH	STANDARD DRAWING NO. SD–301



* 6" FOR PIPE 30" DIAMETER OR LARGER.

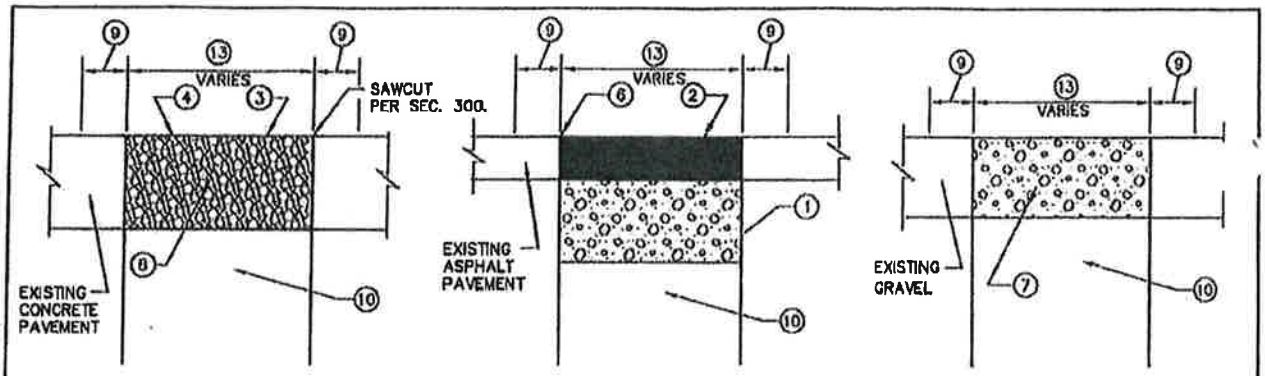
TYPICAL PIPE BEDDING SECTION

BEDDING SYSTEM	BEDDING MATERIAL	
	LOWER BEDDING ZONE	UPPER BEDDING ZONE
CLASS A-1	TYPE I	TYPE I
CLASS A-2	TYPE I	TYPE II OR TYPE III
CLASS B-1	TYPE II	TYPE II
CLASS B-2	TYPE III	TYPE III
CLASS C-1 (CONCRETE CAP)	TYPE I	TYPE IV
CLASS C-2 (CONCRETE CRADLE)	TYPE IV	TYPE I
CLASS C-3 (CONCRETE ENCASEMENT)	TYPE IV	TYPE IV

NOTE

(A) REFER TO SECTION-305 FOR MATERIAL AND COMPACTION REQUIREMENTS.

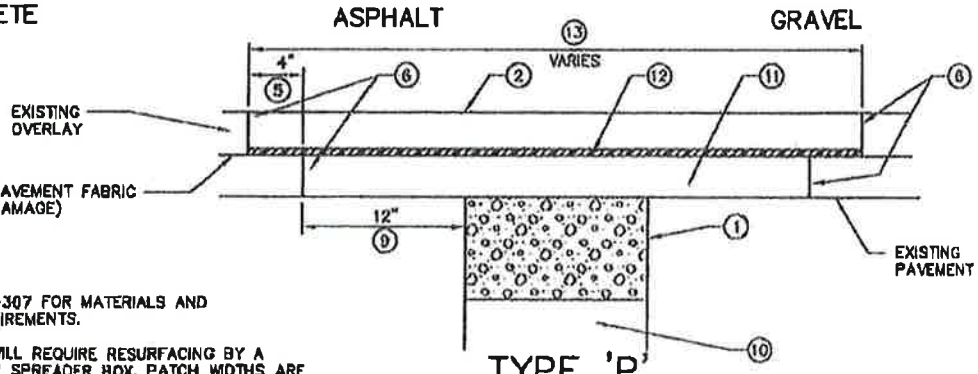
IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION	TYPICAL PIPE BEDDING SECTION	STANDARD DRAWING NO. SD-302



TYPE "B"
CONCRETE

TYPE 'P'
ASPHALT

TYPE "C"
GRAVEL



TYPE 'P'
ASPHALT W/PAVEMENT FABRIC

NOTES:

(A) REFER TO SECTION-307 FOR MATERIALS AND WORKMANSHIP REQUIREMENTS.

(B) ALL STREET CUTS WILL REQUIRE RESURFACING BY A PAVING MACHINE OR SPREADER BOX. PATCH WIDTHS ARE NEVER TO BE LESS THAN 4' IN WIDTH. LOCATE THE MATCH OF THE NEW TO EXISTING PAVEMENT OUT OF THE VEHICLE WHEEL PATH OF THE STREET.

(C) WHERE THE STREET SURFACE INCLUDES AN OVERLAY WITH FABRIC, TAKE THE FOLLOWING ADDITIONAL STEPS:
- A. OVERLAY ABOVE FABRIC AN ADDITIONAL 4" ON EACH SIDE TO EXPOSE EXISTING FABRIC.
- B. INSTALL NEW ASPHALT TO GRADE FABRIC.
- C. INSTALL NEW FABRIC FULL WIDTH OF CUT, IN ACCORDANCE WITH MANUFACTURE'S INSTRUCTIONS.
- D. OVERLAY FABRIC WITH ASPHALT TO FINISH GRADE OF STREET.

(D) TACK ALL COLD JOINT SURFACES WITH EMULSION WHICH HAS BEEN "BROKEN" PRIOR TO PATCHING.

LEGEND

(1) 8" OF 3/4" MINUS CRUSHED AGGREGATE BASE (MIN.) UNLESS A GREATER DEPTH IS OTHERWISE SPECIFIED.

(2) MATCH EXISTING PAVEMENT DEPTH TO 6" UNLESS A GREATER DEPTH IS OTHERWISE SPECIFIED. USE A 2 1/2" (MIN.) MAT ON RESIDENTIAL STREETS AND 3" (MIN.) MAT ON COLLECTORS AND ARTERIALS.

(3) PORTLAND CEMENT CONCRETE SHALL BE CLASS 3000 psi EARLY STRENGTH, AND COMPLY WITH SECTION-706. CUT ASPHALT MAT IN NEAT STRAIGHT LINE.

(4) KEEP TRAFFIC OFF 72 HOURS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

(5) MINIMUM DISTANCES. 4 OVERLAP APPLIES WHERE FABRIC IS BETWEEN ASPHALT LAYERS.

(6) CUT ASPHALT IN NEAT STRAIGHT LINE.

(7) 3/4" MINUS AGGREGATE SURFACE COURSE (8") OR THICKNESS OF EXISTING GRAVEL, WHICHEVER IS GREATER.

(8) THICKNESS EQUALS EXISTING PAVEMENT DEPTH PLUS 2" OF CONCRETE OR PAVEMENT.

(9) LOCAL CUTBACK, ONLY IF REQUIRED.

(10) COMPACTED TRENCH BACKFILL AS PER SD-301 AND SECTION-308 OF THESE SPECIFICATIONS.

(11) ASPHALT TO EXISTING SHELF (MIN 2" THICK).

(12) PLACE NEW PAVEMENT FABRIC FULL WIDTH OF ASPHALT PATCH.

(13) 4' MINIMUM WIDTH FOR SURFACE RESTORATION.

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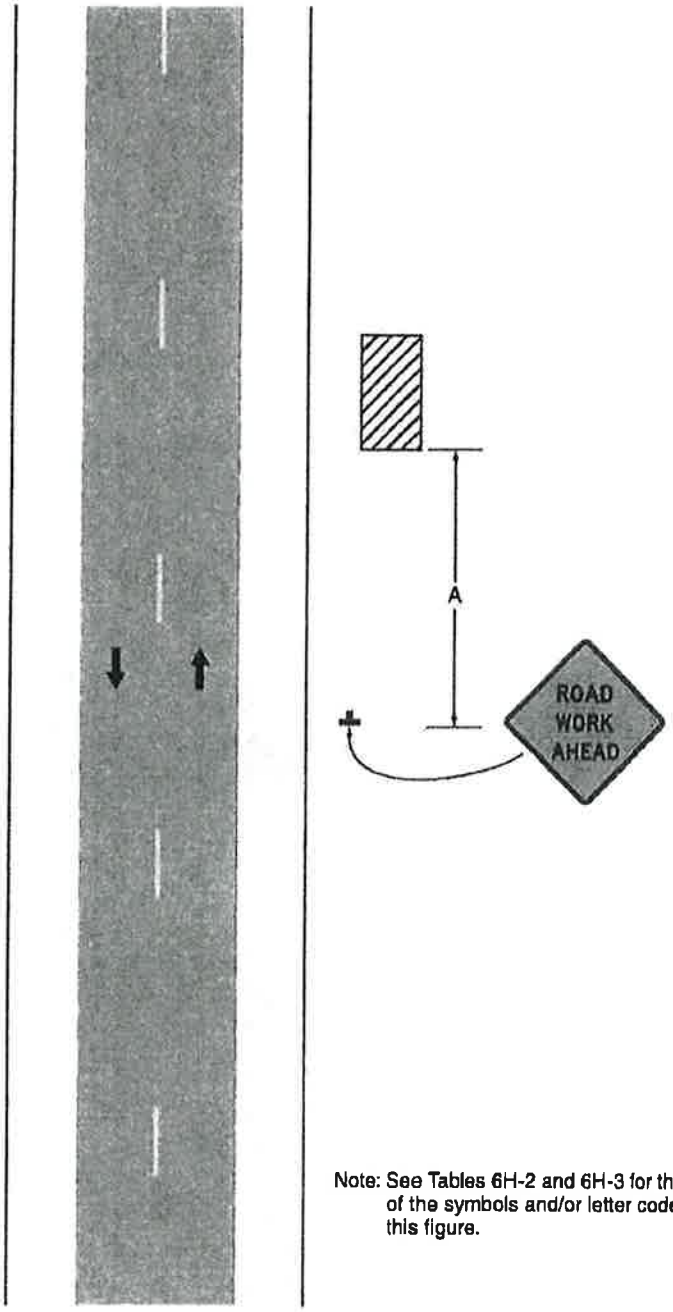
IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION	STREET CUTS AND SURFACE REPAIR DETAILS	STANDARD DRAWING NO. SD-303

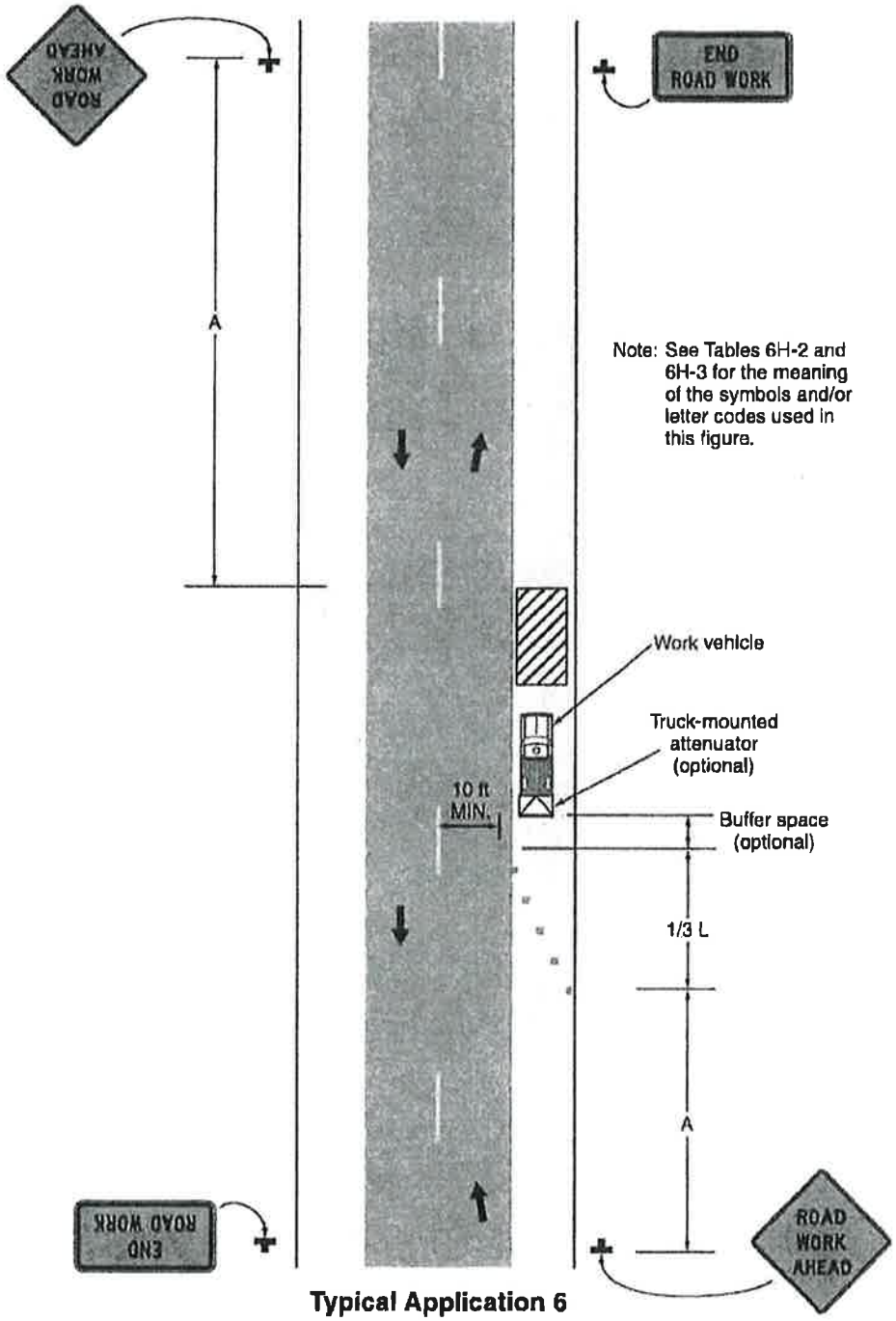
Figure 6H-1. Work Beyond the Shoulder (TA-1)



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

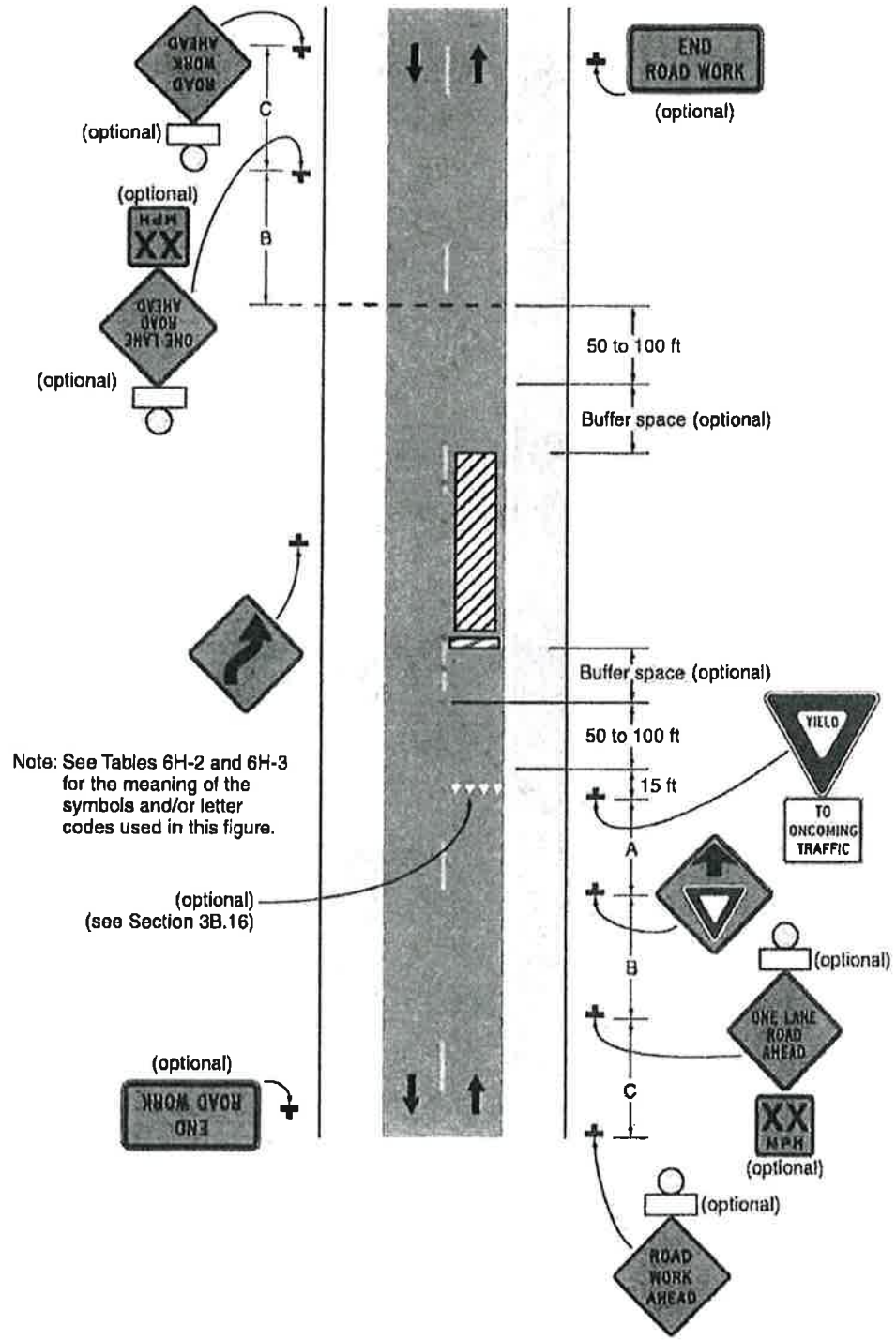
Typical Application 1

Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)



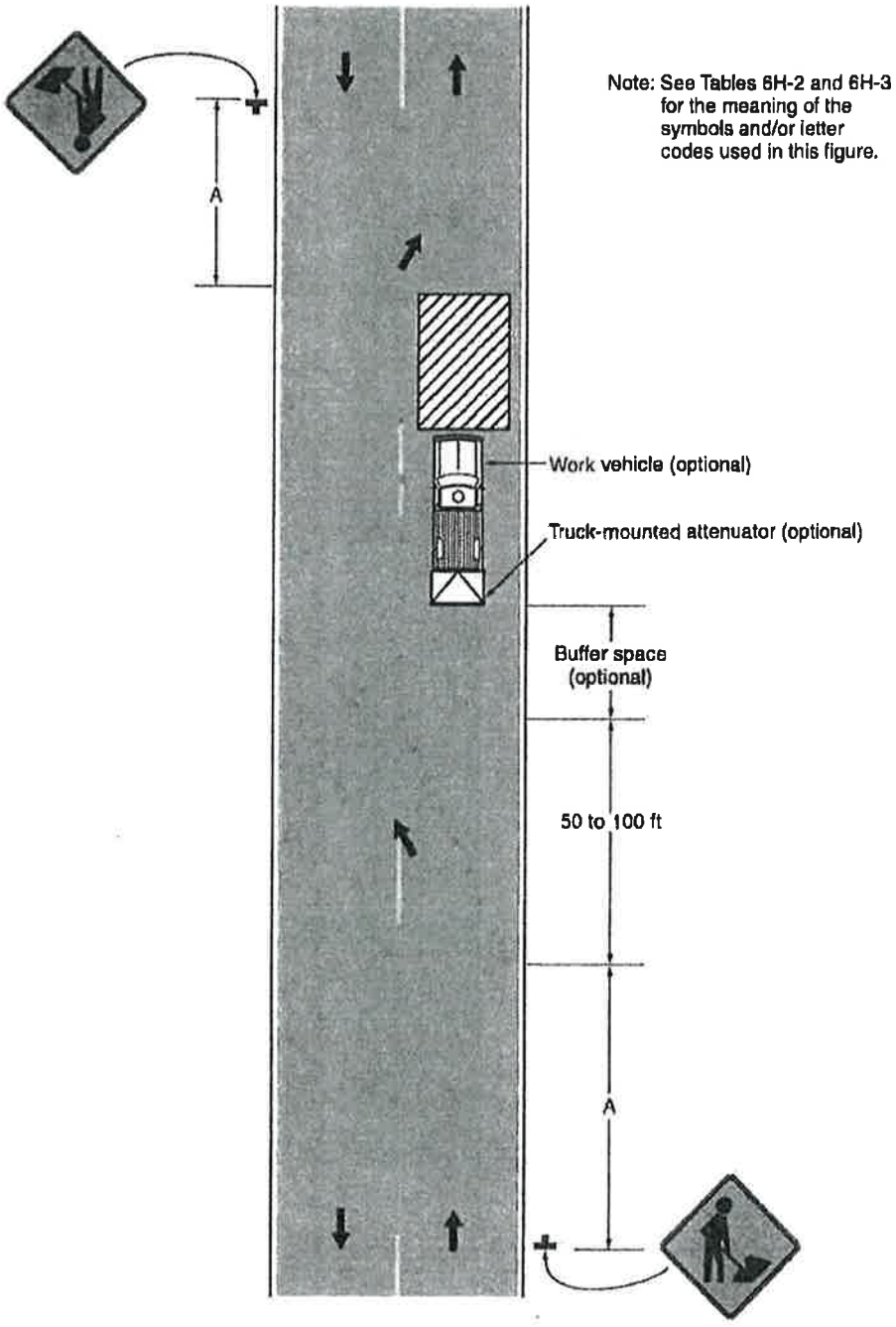
Typical Application 6

Figure 6H-11. Lane Closure on a Two-Lane Road with Low Traffic Volumes (TA-11)



Typical Application 11

Figure 6H-18. Lane Closure on a Minor Street (TA-18)



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